Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Use of Portions of Returned 2 GHz	)	IB Docket No. 05-220
Mobile Satellite Service Frequencies	)	

To: The Commission

COMMENTS OF
CTIA – THE WIRELESS ASSOCIATION™

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SUMMARY

TMI and ICO are seeking to increase their current spectrum holdings by ***250 percent*** (from 8 MHz to 20 MHz each) before either has a single customer. In response, the FCC has stated its intent to give 10.67 MHz of unassigned 2 GHz MSS spectrum to TMI and ICO and has sought comment on whether to increase this amount to 24 MHz. This unassigned 2 GHz spectrum, however, is highly valuable – likely worth billions of dollars – and would be subject to significant demand if openly available in the spectrum market.

ICO and TMI have a high burden to show that the intended spectrum giveaway is in the public interest, particularly given the absence of market forces (such as an auction) to ensure efficient spectrum use. They fail to meet this burden. Instead, it appears that grant of additional spectrum will enable TMI and ICO to further their planned ATC systems. In such case, the Commission should follow its 2 GHz MSS precedent and reallocate the spectrum for terrestrial use, thereby allowing ICO and TMI to pursue the spectrum at auction "in order to provide additional terrestrial services that would complement their MSS (and ATC) offerings."

TMI fails to justify a spectrum giveaway of 5.33 MHz, let alone 12 MHz (half of 10.67 and 24 MHz, respectively):

- It offers no customer demand or traffic projections to support the spectrum increase it is seeking (in prior cases involving MSS expansion spectrum, these figures have formed the core of the Commission's public interest findings).

- It fails to show why more spectrum is needed today, when it already has access to more spectrum than the Commission concluded it would need to commence operations – and operations are more than three years down the road.

- Its claimed need for more spectrum "[t]o deploy a modern ATC network" is contrary to FCC findings that ATC would enable MSS licensees to "provide more and better services to both existing and potentially new subscribers with the same amount of spectrum."

- Its technical conclusions are based on a number of atypical or unclear assertions that render its case insufficient to justify the need for an additional 5.33 MHz, let alone 12 MHz.

For its part, ICO relies on nothing more than prior unsupported statements that it needs 2 x 15 MHz of spectrum. The Commission cannot make a reasoned decision in the public interest to give ICO between 5.33-12 MHz of valuable spectrum for free based on nothing more than a few unsupported and highly speculative statements.

In prior Section 316 cases where "unassigned" or "abandoned" spectrum was at issue, the record supported extremely compelling and unique public interest findings and the Commission concluded, after thorough review, that the modifications were justified. These circumstances are not present in this case.

Ultimately, TMI and ICO have not demonstrated that they currently lack sufficient spectrum resources to provide a viable service. Based on this record, the Commission cannot make a public interest finding that the intended spectrum giveaway provides more consumer welfare than to reallocate the unassigned spectrum and make it available at auction to ensure its highest and best use.

TABLE OF CONTENTS

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	)	
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COMMENTS OF CTIA – THE WIRELESS ASSOCIATION™

CTIA – The Wireless Association™ ("CTIA")[1] hereby responds to the public notice issued on June 29, 2005 ("*Public Notice*") seeking comment on the Commission's intent to give a combined 10.67 MHz of recently-abandoned 2 GHz MSS spectrum to ICO Satellite Services ("ICO") and TMI Communications and Company, Limited Partnership ("TMI"), in addition to the spectrum already assigned to the two companies.[2] In a companion public notice, the Commission has asked whether to give ICO and TMI an additional 13.33 MHz (for a combined total of 24 MHz), or whether to reallocate the 13.33 MHz to other uses or make it available in a new MSS processing round.[3] The spectrum at issue, located at the lower end of the 2 GHz band, is highly valuable. As shown below, ICO and TMI have failed to meet the burden of showing why their systems need an additional 10.67 MHz of spectrum, let alone 24 MHz. The FCC should not give these two private entities additional spectrum without determining whether there is a real

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[1] CTIA – The Wireless Association™ (formally known as the Cellular Telecommunications & Internet Association) is the international organization of the wireless communications industry for both wireless carriers and manufacturers. Membership in the organization covers Commercial Mobile Radio Service ("CMRS") providers and manufacturers, including cellular, broadband PCS, and ESMR, as well as providers and manufacturers of wireless data services and products.

[2] *Public Notice*, Commission Invites Comments Concerning Use of Portions of Returned 2 GHz Mobile Satellite Service Frequencies, FCC 05-133, IB Docket No. 05-220, at 2 (rel. June 29, 2005) ("*Public Notice*").

[3] *Public Notice*, Commission Invites Comments Concerning Use of Portions of Returned 2 GHz Mobile Satellite Service Frequencies, FCC 05-134, IB Docket No. 05-221 (rel. June 29, 2005).

need for it. CTIA submits these comments because of the significance of the spectrum at issue and its concern that the FCC not give away valuable spectrum without adequate justification.

INTRODUCTION

Between mid-March and mid-April of this year, three 2 GHz MSS licensees surrendered their authorizations for cancellation.[4] These surrenders follow the nullification of several other 2 GHz MSS authorizations for milestone non-compliance in 2003.[5] Thus, of the original eight 2 GHz MSS licensees, only ICO and TMI remain and each is authorized for 8 MHz of the current 40 MHz MSS allocation in the 2 GHz band.[6] The net result is that 24 MHz of abandoned spectrum is now available in the 2 GHz MSS bands (2000-2020 MHz and 2180-2200 MHz). The FCC has indicated that it intends to promptly give away 10.67 MHz of this spectrum to ICO and TMI pursuant to Section 316 of the Communications Act (the "Act"), and seeks comment on whether to give the remaining 13.33 MHz to these two licensees or make it otherwise available.

This unassigned 2 GHz spectrum, however, is highly valuable and would be subject to significant demand if openly available in the spectrum market. Here, TMI and ICO have sought to bypass any consideration of the best use of this spectrum and seek to increase their current spectrum holdings by ***250 percent*** (from 8 MHz to 20 MHz each). A grant of free spectrum, however, demands a rigorous showing of need, and ICO and TMI have failed to provide a reasoned basis – through economic or technical showings – that their systems need additional spectrum. Instead, it appears that grant of additional spectrum will enable ICO and TMI to further

[4] *Public Notice* at 1 & n.2.

[5] *See Mobile Communications Holdings, Inc. and Constellation Communications Holdings, Inc.*, 18 FCC Rcd 1094 (IB 2003), *aff'd*, 19 FCC Rcd 11631 (2004), *appeal pending sub nom. ICO Global Communications (Holdings) Limited v. FCC*, No. 04-1428 (D.C. Cir. filed July 23, 2004); *Globalstar, L.P.*, 18 FCC Rcd 1249 (IB 2003), *aff'd*, 19 FCC Rcd 11548 (2004), *recon. pending*.

[6] *See TMI Communications and Company, Limited Partnership and TerreStar Networks Inc.*, 19 FCC Rcd 12603, 12622 ¶ 54 (2004) ("*TMI Reinstatement Order*"); *ICO Satellite Services G.P.*, DA 05-1504, ¶ 34 (IB rel. May 24, 2005) ("*ICO Modification Order*").

their planned ATC systems. In such case, the Commission should follow its 2 GHz MSS precedent and reallocate the spectrum for terrestrial use, thereby allowing ICO and TMI to pursue the spectrum at auction "in order to provide additional terrestrial services that would complement their MSS (and ATC) offerings."[7]

I. THE 2 GHz SPECTRUM IS HIGHLY VALUABLE AND SHOULD NOT BE GIVEN AWAY WITHOUT CONSIDERING ITS BEST USE

The 10.67 MHz of spectrum the Commission intends to give ICO and TMI – indeed, the full 24 MHz of unassigned spectrum – is of great value given its propagation characteristics and its proximity to other licensed bands, including PCS, AWS and MSS. As such, the unassigned spectrum is well suited to provide terrestrial mobile services on a stand alone basis or in conjunction with PCS, AWS or MSS/ATC operations.

The demand for this spectrum is significant – it would likely be worth billions of dollars in auction revenue. By way of comparison, as part of the 800 MHz public safety proceeding, the FCC valued 10 MHz of terrestrial nationwide spectrum in the 1.9 GHz band (1910-1915/1990-1995 MHz) awarded to Nextel Communications Inc. ("Nextel") at $4.86 billion.[8] While the Nextel spectrum was particularly valuable given its adjacency to the broadband PCS bands, the spectrum at issue here is located within the 2000-2020/2180-2200 MHz bands that are (i) nearby the broadband PCS bands (1850-1910/1930-1990 MHz) and (ii) immediately adjacent to a paired

[7] *New Advanced Wireless Services, Sixth Report and Order, Third Memorandum Opinion and Order, and Fifth Memorandum Opinion and Order*, 19 FCC Rcd 20720, 20742 ¶ 46 & n.94, 20761 ¶ 96 (2004) ("*AWS 6th R&O*") (affirming the reallocation of some 2 GHz MSS spectrum to Advanced Wireless Services ("AWS") and concluding that MSS licensees can pursue the spectrum for terrestrial use just like any other auction participant), *affirming Third Report and Order*, 18 FCC Rcd 2223, 2238 ¶ 28 (2003) ("*AWS Third R&O*").

[8] *See Improving Public Safety Communications in the 800 MHz Band, Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order*, 19 FCC Rcd 14969, 15112 ¶ 297 (2004) ("*800 MHz Order*"), *recon.*, FCC 04-294 (rel. Dec. 22, 2004).

band previously reallocated to Advanced Wireless Services ("AWS") (2020-2025/2175-2180 MHz).[9]

Given the significant (and conflicting) demand for this unassigned spectrum, principles of sound spectrum management dictate that the FCC should not engage in a presumptive, piecemeal giveaway following an abbreviated comment cycle. The FCC has as one of its core missions the obligation to "[e]ncourage the highest and best use of spectrum,"[10] and to that end has acknowledged that spectrum "must be allocated and assigned in a manner that will provide the greatest possible benefit to the American public."[11] With respect to 2 GHz MSS spectrum in particular, the Commission has noted its "continuing spectrum management obligations to ensure that the spectrum is used efficiently and effectively."[12] The Commission has also stated that abandoned 2 GHz MSS spectrum "may be available for expansion of systems ***that are operational***"[13] – not the case here – or "the reallocation of spectrum if 2 GHz MSS licensees fail to meet their milestones."[14]

A determination of the highest and best use of the abandoned spectrum is particularly warranted in this case, where the remaining 2 GHz MSS licensees have not submitted sufficient information to justify either a technical or economic need for additional spectrum to support their

[9] *AWS 6th R&O*, 19 FCC Rcd at 20722 ¶ 1.

[10] Federal Communications Commission, Strategic Plan FY 2003-FY 2008 at 5 (2002), *available at* <http://www.fcc.gov/omd/strategicplan/strategicplan2003-2008.pdf> (visited July 7, 2005).

[11] *Principles for Reallocation of Spectrum, Policy Statement*, 14 FCC Rcd 19868, 19870 ¶ 7 (1999). These spectrum management obligations derive in part from Section 303(g) of the Communications Act (the "Act"), which directs the Commission to "encourage the larger and more effective use of radio in the public interest." 47 U.S.C. § 303(g); *see also 800 MHz Order*, 19 FCC Rcd at 15013 ¶ 68 (describing the Commission's "statutory duties as a spectrum manager"), 15019 ¶ 81 ("Radio spectrum is a public resource of the United States that Congress has authorized and directed the FCC to manage in the public interest.").

[12] *AWS Third R&O*, 18 FCC Rcd at 2238 ¶ 29.

[13] *Establishment of Policies and Service Rules for MSS in the 2 GHz Band, Report and Order*, 15 FCC Rcd 16127, 16139 ¶ 18 (2000) ("*2 GHz Order*") (emphasis added).

[14] *AWS Third R&O*, 18 FCC Rcd at 2238 ¶ 29.

planned offerings. This limited record instead suggests that the apparent need for more spectrum is to support terrestrial operations. TMI's request, for example, makes clear its intentions: "To deploy a modern ATC network, at least 2 x 10 MHz of spectrum is needed."[15] Where additional spectrum is to be assigned to an entity that intends to use it for terrestrial mobile service, the Commission should reallocate the spectrum and auction it for the benefit of the public pursuant to Section 309(j).[16] Indeed, the Commission has already acknowledged that MSS licensees can acquire terrestrial AWS spectrum reallocated from MSS "in order to provide additional terrestrial services that would complement their MSS (and ATC) offerings" – subject to "the terms of the AWS licensing and service rules we ultimately adopt."[17]

II. ICO AND TMI FAIL TO JUSTIFY THE AWARD OF AN ADDITIONAL 10.67 MHz, LET ALONE 24 MHz

A. The Burden Is on ICO and TMI to Show that Reassignment Represents the Best Use of the Spectrum for the Benefit of the Public

Where, as here, the spectrum at issue is the subject of significant demand, sound spectrum management dictates that the Commission should require ICO and TMI to demonstrate that their systems need additional spectrum before giving it away. In the case of 2 GHz MSS spectrum, no market-based moderating forces exist to ensure that ICO and TMI will use the addi-

[15] Letter from Gregory C. Staple, Vinson & Elkins, Counsel for TMI, and Jonathan D. Blake, Covington & Burling, Counsel for TerreStar, to Donald Abelson, Chief, International Bureau, FCC, at 7 (Apr. 20, 2005) ("TMI Letter"); *see also infra* notes 46-49 and accompanying text. TMI filed its request along with its affiliate, TerreStar Networks Inc. ("TerreStar"). References to the TMI Letter herein refer to both TMI and TerreStar. ICO has submitted a letter in support of the TMI redistribution request. *See* Letter from Suzanne H. Malloy, Senior Regulatory Counsel, ICO, to Donald Abelson, Chief, International Bureau, FCC, ET Docket Nos. 02-34 & 02-248 (May 3, 2005) ("ICO Letter").

[16] 47 U.S.C. § 309(j). As the Commission has recognized, "the granting of valuable spectrum rights . . . to any party . . . without recourse to the competitive bidding process is highly unusual." *800 MHz Order*, 19 FCC Rcd at 15081 ¶ 213. The Commission has also made clear that "we are mindful that Congress has expressed a strong statutory preference in the vast majority of circumstances for use of auctions to assign spectrum rights." *Id*.

[17] *AWS 6th R&O*, 19 FCC Rcd at 20742 ¶ 46 n.94. The Commission has proposed to accept competing applications for the MSS spectrum reallocated to AWS, in which case it has acknowledged that it must auction the spectrum in accordance with Section 309(j) of the Act. *See Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands, Notice of Proposed Rulemaking*, 19 FCC Rcd 19263, 19271 ¶ 17 (2004) ("*AWS NPRM*").

tional spectrum effectively and efficiently for the benefit of the public,[18] as they pay nothing to receive additional spectrum. This scenario contrasts with traditional terrestrial CMRS, where the cost of spectrum – either at auction or in the secondary market – is a disciplining force. Moreover, Section 316 "explicitly restrict[s] the Commission's authority to modify a license" to situations where the modification is "in the public interest, convenience and necessity."[19] Under these circumstances, ICO and TMI have a strong burden to show that the intended license modification is in the public interest.

This burden is heightened by fundamental inconsistencies between prior Commission statements and the request by ICO and TMI for additional spectrum in this proceeding. As a threshold matter, when the Commission enumerated the spectrum options available in the event of further abandoned 2 GHz MSS spectrum, it stated that such spectrum "***may*** be available for expansion of systems ***that are operational***."[20] Neither ICO nor TMI is operational, and their system operations are years away.[21] Moreover, the FCC has stated that 5 MHz of spectrum "is sufficient for commencement of service,"[22] and TMI and ICO already each have 8 MHz today.[23] As discussed below, neither ICO nor TMI offer any projections of traffic growth demand along

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[18] *Cf. AWS Third R&O*, 18 FCC Rcd at 2238 ¶ 29 (describing the Commission's "obligations to ensure that the [2 GHz MSS] spectrum is used efficiently and effectively").

[19] *California Metro Mobile Communications v. FCC*, 365 F3d 38, 45 (D.C. Cir. 2004); *see also infra* discussion Section III. In exercising its Section 316 authority, the Commission must not only consider the public benefit the modification might engender, but also balance "any public loss which it might occasion." *Democratic Printing Co. v. FCC*, 202 F.2d 298, 301 (D.C. Cir. 1952) (analyzing former Section 312(b) of the Act, now Section 316). Such losses would include lost auction revenue if the spectrum is to be used for terrestrial services, in which case it should be reallocated to terrestrial use and auctioned for the benefit of the public.

[20] *2 GHz Order*, 15 FCC Rcd at 16139 ¶ 18 (emphasis added).

[21] ICO stated it would commence operations in 2003, but has yet to do so. *See AWS Third R&O*, 18 FCC Rcd at 2239 ¶ 31 n.92. Following grant of its request to modify its proposed system from a non-geostationary-satellite orbit ("NGSO") constellation to a geostationary-satellite-orbit ("GSO") satellite, its system operation milestone is two years away. *ICO Modification Order* at ¶ 38. TMI's system operation milestone is more than three years away. *TMI Reinstatement Order*, 19 FCC Rcd at 12623 ¶ 59.

[22] *2 GHz Order*, 15 FCC Rcd at 16138 ¶ 17.

[23] *See TMI Reinstatement Order*, 19 FCC Rcd at 12622 ¶ 54; *ICO Modification Order* at ¶ 34.

with quantitative translations into bandwidth to substantiate their claims that they need more than 8 MHz.

In addition, both TMI and ICO intend to avail themselves of the benefits of ATC, which the FCC specifically found would *not* require additional spectrum to enable MSS operators to make more efficient use of their existing satellite allocation to offer more and better services to the public:

> ***MSS ATC proponents do not seek additional spectrum, but rather greater authority to use spectrum previously licensed for their use in satellite systems in additional ways***. As such, the potential efficiency gains of ATC – whether obtained through increased frequency reuse within a satellite beam or through improved MSS reception in urban areas – are real. Indeed, granting MSS operators the ability to provide more and better services to both existing and potentially new subscribers ***with the same amount of spectrum necessarily improves the efficiency with which they can use the spectrum*** . . . .[24]

Indeed, ICO stated (at a time when it held a 7 MHz license) that "ATC use . . . may alleviate the need for the full amount of spectrum that is currently set aside for spectrum expansion."[25] In joint comments with TMI, Mobile Satellite Ventures Subsidiary LLC ("MSV") also stated that ATC will allow MSS spectrum to be "more efficiently used, without diminishing capacity for satellite service."[26] TMI and ICO do not explain why they need more spectrum when ATC was adopted to allow more efficient use of *existing* spectrum.

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[24] *Flexibility for the Delivery of Communications by MSS Providers, Report & Order*, 18 FCC Rcd 1962, 1974 ¶ 20 (2003) ("*ATC Order*") (emphasis added), *recon., Order on Reconsideration*, 18 FCC Rcd 13590 (2003), *further recon., Memorandum Opinion and Order and Second Order on Reconsideration*, 20 FCC Rcd 4616 (2005) ("*ATC Second Order on Reconsideration*"); *see also ATC Order*, 18 FCC Rcd at 1973 ¶ 18 ("We find that MSS licensees may achieve greater efficiencies in their use of assigned spectrum through MSS ATC . . . .").

[25] Comments of New ICO Global Communications in ET Dockets 00-258 & 95-18 & IB Docket No. 99-81 at 29 (Oct. 22, 2001) ("ICO Oct. 22, 2001 Comments").

[26] Comments of Motient Services, Inc., TMI and MSV in IB Docket No. 01-185 & ET Docket No. 95-18 at 16-17 (Oct. 22, 2001). TMI is significant investor in MSV. *See* MSV Section 1.65 Amendment to File No. SAT-LOA-19980702-00066 *et al*. (Dec. 13, 2004).

Given this confluence of factors – the absence of auctions to ensure that grant of additional spectrum is used in an efficient way; the fact that TMI and ICO already have access to more spectrum than the Commission found was necessary to commence operations; and the availability of ATC, which the Commission concluded would allow more efficient use of existing spectrum – ICO and TMI have a high burden to show that the intended license modification is in the public interest. At a minimum, they must make economic or technical showings that their systems require additional spectrum. As demonstrated below, they have not.

B. TMI and ICO Have not Demonstrated that a Rational Basis Exists to Deem the Reassignment in the Public Interest

In order for the FCC to sustain the proposed spectrum giveaway as a license modification, it must provide a rational basis for concluding that the modification is in the public interest.[27] Neither the public notice nor the public record state a basis for the Commission's stated intent to give away at least 10.67 MHz, and as much as 24 MHz, of spectrum to two private entities. As shown below, TMI and ICO fail to demonstrate, and the FCC cannot find, that a rational basis exists to deem the reassignment in the public interest.

TMI fails to justify a spectrum giveaway of 5.33 MHz, let alone 12 MHz (half of 10.67 and 24 MHz, respectively). First, it fails to show why more spectrum is needed today, when it already has access to 8 MHz – 3 MHz more than the Commission concluded it would need to commence operations – and operations are more than three years down the road.[28]

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[27] *See Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (agency must "examine the relevant data and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made'") (quoting *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962)); *see also supra* note 19 and accompanying text.

[28] *See supra* notes 22-23 and accompanying text. TMI also makes no mention of the impact of the additional MSS spectrum it has access to in the L-Band via its relationship with MSV. As noted above, TMI is significant investor in MSV. *See supra* note 26. It is also affiliated with, and has an application on file to assign its 2 GHz license to, TerreStar, which is owned in part by MSV. *See* TMI Ex Parte in IB Docket No. 99-81 *et al*. at n.1 (June 27, 2005);

(continued on next page)

Second, it claims to need more spectrum for ATC, even though ATC was adopted to allow more efficient use of existing spectrum.[29] Specifically, TMI asserts in its latest filing that "[t]he ATC component will allow MSS licensees to provide more effective and *spectrally-efficient* service."[30] Indeed, it describes these spectral efficiencies as "unprecedented."[31] Yet, in virtually the same breath, it claims that at least 20 MHz – ***4 times*** the amount the FCC found was needed to deploy 2 GHz MSS *before* ATC efficiencies were even taken into account – is now needed "[t]o deploy a modern ATC network."[32] TMI fails to explain this disconnect which, if true, is contrary to the bedrock efficiency findings that led to the Commission to provide for ATC in the first instance.[33]

Third, the methodology TMI uses to support its claimed need for 5.3-12 MHz of additional spectrum is fundamentally flawed. Most importantly, it offers absolutely no customer demand or traffic projections to support the ***250 percent*** spectrum increase it is ultimately seeking before it has even a single customer. In prior cases where the Commission has provided an MSS licensee with expansion spectrum, these figures have formed the core of its public interest findings. For example:

- In 2003, the FCC provided Iridium with a temporary increase in Big LEO spectrum "to provide essential services to support vital U.S. Government operations in the Middle East."[34] It did so based on demonstrated traffic

(footnote continued)
TMI Section 1.65 Amendment to File No. SAT-LOI-19970926-00161 *et al*. (June 15, 2005); *cf. TMI Communications and Company, Limited Partnership*, 18 FCC Rcd 1725, 1726 ¶ 3 (IB 2003), *app. rev. granted in part, TMI Reinstatement Order*, *supra* note 6.

[29] *See supra* notes 24-26 and accompanying text.

[30] TMI Letter at 3 (emphasis added).

[31] *Id*. at 7.

[32] *Id*.

[33] *See supra* note 24 and accompanying text.

[34] *Modification of Licenses held by Iridium Constellation, LLC and Iridium US*, 18 FCC Rcd 20023, 20027 ¶ 9 (IB 2003).

levels on the Iridium system and demand for its services.[35] In addition to Iridium's own system loading and system capacity showings, the Iridium request was backed up by information from the Department of Defense that the rate of use was "unsustainable" without the allocation of additional spectrum.[36]

- In 2004, the FCC issued Iridium a modified license following a rulemaking to reexamine the distribution of spectrum in the Big LEO MSS bands. The Commission modified the license of Iridium to provide it with access to additional spectrum, but only after "seeking detailed comment regarding its actual and current spectrum use and ***substantiated projections of its future spectrum requirements***."[37] This included "the demand of Iridium customers for spectrum," "how many subscribers Iridium plans to support" and "how efficiently Iridium is using its current spectrum."[38]

The Commission has asked no such questions here, and TMI has provided no answers. The fact that TMI is not operational, and thus cannot submit any data about current spectrum usage and customers demands, does not relieve it of the burden to make a compelling showing, through substantiated economic and technical projections, of its system needs for additional spectrum.[39]

Instead of offering substantiated customer demand and traffic forecasts, TMI talks only about how many subscribers it needs to justify ordering sufficient numbers of handsets from multiple manufacturers to keep costs down.[40] Specifically, it looks at claimed economies of scale with manufacturers needed to sustain a "competitive supply base for handsets" (4.5-6 million per year using three manufacturers). It then works backward to determine a needed customer base (15-25 million) and concludes that this number of subscribers would necessitate a

[35] *See id*. at 20024 ¶ 4, 20026-27 ¶¶ 7-9.

[36] *See id*. at 20026 ¶¶ 7-8.

[37] *See Review of Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit MSS Systems in the 1.6/2.4 GHz Bands, Notice of Proposed Rulemaking*, 18 FCC Rcd 1962, 2089-90 ¶¶ 267-68 (2003) ("*Big LEO NPRM"*) (emphasis added).

[38] *See id.*; *see also infra* Section III.

[39] To the contrary, TMI bears a heightened burden given that its system is not operational. *See supra* Section II.A.

[40] *See* TMI Letter at 8-9.

bandwidth amount of 2 x 10 MHz.[41] In doing so, it never makes a projection or substantiates whether there will actually be a customer base to purchase all of those handsets from TMI.[42] Nor does TMI commit in any way to ordering the extremely high volumes of handsets it states it needs if it receives the additional spectrum it is seeking. TMI's "figures" are also predicated upon TMI as the only volume purchaser of MSS/ATC handsets, which ignores orders that may be placed by other MSS/ATC operators.[43]

Finally, TMI's technical conclusions are based on a number of atypical or unclear assertions that render its case insufficient to justify the need for an additional 5.33 MHz, let alone 12 MHz. For example, TMI assumes far more inefficient spectrum use than would normally be expected. Specifically, in its voice link budgets, TMI provides for only 10 active calls per CDMA carrier[44] rather than a value of more than 20 calls per channel normally supported by a 1.23 MHz CDMA carrier,[45] without any explanation as to why it is relying upon such a poor spectrum sharing assumption.

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[41] *See* TMI Letter at 8-9 & Cowhey Declaration at 4-6. TMI cites to the Cowhey Declaration to support its argument that (i) orders of 4.5-6 million handsets are needed to achieve scale economies, (ii) a customer base of 15-25 million is needed to support maintaining such a sale volume and (iii) 20 MHz of spectrum is, in turn, required to serve that customer base. Cowhey, however, acknowledges that "I cannot offer an expert opinion on this engineering calculation concerning spectrum." TMI Letter, Cowhey Declaration at 6.

[42] If TMI's scale analysis was correct, with three MSS/ATC providers, the customer base required under the TMI model would need to be 45-75 million subscribers and, with four providers, it would need to be 60-100 million subscribers.

[43] *See* Cowhey Declaration at 5 & n.16 (acknowledging that "this total is sensitive to how much volume for handset/terminals is generated by a competitor to TMI/TerreStar in the 2 GHz band"). At bottom, the TMI analysis appears to be little more than a request for additional free spectrum to avoid having to subsidize phones to keep costs down for potential subscribers. Terrestrial CMRS providers, however, which must pay for additional spectrum, typically discount phones (sometimes offering them for free) as part of enticements to attract or retain subscribers.

[44] *See* TMI Letter, Technical Appendix at 5-12.

[45] With TMI's voice channel data rate of 4800 b/s, normal sharing should allow more than 20 users per carrier. For example, Globalstar is capable of supporting over 25 simultaneous calls if each channel were operated at a rate of 4800 b/s. *Cf.* Darren D. Chang and Oliver L. de Weck, *Basic Capacity Calculation Methods and Benchmarking for MF-TDMA and MF-CDMA Communication Satellites*, Int. J. Satell. Commun. 2004; 100:1-999, at 17, available at <http://web.mit.edu/deweck/www/PDF_archive/2%20Refereed%20Journal/2_9_IJSCN_16ae03_v2.pdf> (visited July 12, 2005).

TMI also rejects without explanation the normal frequency reuse planning for CDMA satellite systems, which reuses the same set of frequencies in adjacent spot beams.[46] Instead, TMI claims to need 20 MHz "to develop a reasonable frequency reuse cluster size,"[47] *i.e.*, use of different sets of frequencies in adjacent spot beams. TMI would not be bandwidth limited if it were to use its current 8 MHz allocation for MSS,[48] as it would derive significant spectrum efficiencies by reusing the same frequencies in adjacent spot beams. Thus, although TMI is silent on this point, it appears that TMI's planned *ATC* operations necessitate frequency reuse clusters which, in turn, impact bandwidth. If additional spectrum is needed to support ATC, this is directly contrary to the FCC's finding that ATC would allow greater efficiencies and better services "with the same amount of spectrum."[49] TMI does not address this disconnect.

Lastly, TMI relies upon an assumption of fixed, higher gain antennas to attempt to show that it would be bandwidth limited with anything less than 20 MHz. Such fixed, high gain terminals, however, do not resemble the dual mode satellite/ATC handsets contemplated in the MSS ATC rulemaking.[50]

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[46] Rizwan Mustafa Mir, *Satellite Data Networks* § 4.2 (noting that CDMA "[a]llows the reuse of [the] same frequencies in adjacent beams in a multiple spot beam satellite"), *available at* <http://www.cse.ohio-state.edu/~jain/cis788-97/ftp/satellite_data/> (visited July 12, 2005).

[47] *See* TMI Letter, Technical Appendix at 3.

[48] For example, if TMI were to use its currently licensed 4 MHz wide forward allocation purely for satellite communications, then each of its 285 spot beams might carry 3 CDMA-2000 carriers. In other words, there would be enough bandwidth for up to 885 carriers. However, a comparison of the TMI aggregate EIRP (80 dBW) with the value of EIRP per carrier (52.4 dBW) presented in the link budgets shows that the TMI satellite will not support more than 576 carriers and is therefore power limited – not bandwidth limited – if the bandwidth is dedicated solely to satellite use.

[49] *See supra* note 24 and accompanying text.

[50] *Compare* TMI Letter, Technical Appendix at 3-4 & n.3 (describing how "TerreStar hand-held units can be connected to low cost 'companion' devices that provide the necessary antenna aperture and are pointed at the satellite with user assistance") *with ATC Second Order on Reconsideration*, 20 FCC Rcd at 4627 ¶ 29 ("We clarify that a 'dual-mode handset' . . . shall consist of a handset which, when sold to the customer, contains all the hardware and software necessary to acquire and communicate via both the operator's MSS system's signal and its ATC system's signal, either within the casing or permanently affixed to the casing in such a fashion that no part of the equipment would ordinarily be detached from the casing unless defective and in need of replacement. Specifically, we will not

(continued on next page)

In sum, TMI fails to provide *any* actual customer demand or traffic forecasts, and relies upon flawed methodologies and unrealistic or unexplained assumptions. At most, these "showings" indicate the additional spectrum is needed to support terrestrial rather than satellite services, in which case the spectrum should be reallocated to terrestrial use and made available at auction to ensure its highest and best use.

With respect to ICO, the cited record in this proceeding offers absolutely no support for *any* spectrum increase. The *Public Notice* references only a May 3, 2005 letter,[51] in which ICO states that it "has consistently sought a minimum of 2 x 15 MHz for its MSS system."[52] The ICO letter cites supporting materials that, upon review, simply report meetings with staff in which ICO argued for "adequate spectrum resources."[53] Its claimed need for 2 x 15 MHz was not mentioned, let alone substantiated. Although not part of the record in this proceeding or cited by ICO in its May 3, 2005 letter, CTIA is aware of one additional instance in which ICO "noted its capacity requirements for a commercially viable 2 GHz MSS system are at least 15 x 2 MHz."[54] That submission contains no substantiation and cites only to a 1998 SEC foreign registration fil-

(footnote continued)
ordinarily consider 'component kits' . . . to be dual-mode handsets. *Any handset that requires a supplementary attachment to acquire and use both the MSS and the ATC signal will not be considered dual-mode*.") (emphasis added).

[51] *Public Notice* at n.3.

[52] ICO Letter at 2 & n.8.

[53] *See* Letter from Mobile Communications Holdings, Inc., Constellation Communications Holdings, Inc. and ICO to Marlene Dortch, Secretary, FCC, ET Docket Nos. 95-18 & 00-258 & IB Docket No. 01-185 (Dec. 12, 2002); Letter from ICO to Marlene Dortch, Secretary, FCC, ET Docket Nos. 95-18 & 00-258 & IB Docket No. 01-185 (Dec. 20, 2002). The ICO Letter did not provide docket or file numbers for the cited supporting materials, *see* ICO Letter at n.8, but CTIA was able to locate two of the materials in ECFS. ICO also referenced a May 6, 2003 letter, which could not be located in ECFS or in the Public Reference Center in the absence of a docket or file number.

[54] ICO Oct. 22, 2001 Comments at 15.

ing, which repeats the same claim but offers nothing to back it up.[55] Nothing more is known to exist – certainly nothing more in this record.

Moreover, these statements were made before the Commission (i) provided for ATC in 2003 to allow more efficient use of existing spectrum[56] or (ii) granted ICO approval in 2004 to fundamentally alter its satellite system from a 12-satellite NGSO constellation to a single GSO satellite.[57] Accordingly, even if these statements had been earlier substantiated, they were premised on outdated facts and have not been updated in this record. The Commission simply cannot make a reasoned decision in the public interest to give ICO between 5.33-12 MHz of valuable spectrum for free based on nothing more than a few unsupported and highly speculative statements that fail to take into account the intervening event of ATC efficiencies.

III. SECTION 316 PRECEDENT DOES NOT SUPPORT THE INTENDED SPECTRUM GIVEAWAY BASED ON THE CURRENT RECORD

The Commission has stated its intent to award TMI and ICO a combined 10.67 MHz of spectrum pursuant to its authority under Section 316 of the Act to modify licenses in "the public interest, convenience, and necessity."[58] The Commission has used Section 316 to modify the spectrum holdings of its licensees in at least three prior cases where "unassigned" or "abandoned" spectrum was at issue. But in contrast to the spectrum at issue here, in each of the previous cases the record supported extremely compelling and unique public interest findings and the Commission concluded, after thorough review, that the modifications were justified to support licensees that already were operational. These circumstances are not present in this case.

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[55] *Id*. at 15 n.40 (citing SEC Form F-1 Registration of ICO Global Communications (Holdings) Limited, at 24 (June 12, 1998)).

[56] As noted above, ICO has acknowledged that "ATC use . . . may alleviate the need for the full amount of spectrum that is currently set aside for spectrum expansion." *See* ICO Oct. 22, 2001 Comments at 29.

[57] *See ICO Modification Order*, *supra* note 6.

[58] 47 U.S.C. § 316(a)(1).

As noted above, the Commission recently completed a rulemaking examining whether to revise the Big LEO band plan and modify the license of Iridium to provide it with access to additional spectrum.[59] In the Big LEO bands, only Globalstar and Iridium had become operational while (similar to the 2 GHz band) the remaining systems either surrendered their license or failed to meet the terms of their license.[60] After seeking "detailed comments" concerning the "actual current spectrum use" and "substantiated projections" of future spectrum usage by Iridium and Globalstar, as well as asking whether to reallocate abandoned spectrum to other uses or open a new processing round,[61] the Commission found it was in the public interest to modify Iridium's license. The Commission modified the Iridium license to provide it with shared access to an additional 3.1 MHz of spectrum based upon a "compelling" showing of need.[62]

In August 2004, the Commission adopted an order modifying the license of Nextel to provide it with 10 MHz spectrum in the 1.9 GHz band as part of the 800 MHz rebanding plan.[63] The Commission found the modification would serve "significant" and "extraordinary" public interest concerns by addressing the "untenable situation" of "interference in the 800 MHz band" to public safety.[64] Significantly, the Commission imposed a "cash payment mechanism" to ensure that Nextel did not reap a "windfall" to the extent the spectrum it received was more valuable than the spectrum it was giving up; in other words, it did not receive the spectrum for free.[65]

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[59] *Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands, Report and Order, Fourth Report and Order and Further Notice of Proposed Rulemaking*, 19 FCC Rcd 13356 (2004) ("*Big LEO Order*").

[60] *See Big LEO NPRM*, 18 FCC Rcd at 2087 ¶ 261.

[61] *Id.* at 2089-91 ¶¶ 267-72.

[62] *Big LEO Order*, 19 FCC Rcd at 13377 ¶ 47.

[63] Half of the spectrum (1990-1995 MHz) was unassigned following the redesignation of a larger block of spectrum from MSS to fixed and mobile use in 2003; the remainder (1910-1915 MHz) was redesignated from unlicensed PCS to licensed fixed and mobile services. *800 MHz Order*, 19 FCC Rcd at 15086-91 ¶¶ 224-38.

[64] *800 MHz Order*, 19 FCC Rcd at 15010 ¶¶ 62-63, 15021 ¶ 86, 15081 ¶ 213.

[65] *Id.* at 15014 ¶ 75.

Finally, in 2002, the Commission modified the license currently held by MSV to assign it lower L-Band frequencies in lieu of upper L-Band frequencies because the United States was unable to coordinate the originally-assigned upper L-Band frequencies internationally for use by a U.S. licensee.[66] The Commission found that its inability to award the assigned spectrum constituted "unprecedented circumstances"[67] and concluded it was thus in the public interest to modify the spectrum assignment.[68] Importantly, the licensee was operational and providing service,[69] and actually received a modified license for less (but more usable) spectrum than it was originally assigned.[70]

These cases counsel the FCC to require a detailed showing of why ICO and TMI need the additional spectrum. If the spectrum is needed for terrestrial operations, the FCC should establish a full rulemaking to reallocate the spectrum and make it available at auction to ensure its highest and best use in the public interest. There is no exigency which compels the FCC to rush to judgment.[71]

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[66] *Mobile Satellite Services in the Upper and Lower L-Band, Report and Order*, 17 FCC Rcd 2704, 2705 ¶ 1 (2002) ("*L-Band Order*"). The lower L-Band frequencies previously had not been assigned. *See id*. at 2713 ¶ 24.

[67] *Mobile Satellite Services in the Upper and Lower L-Band, Notice of Proposed Rulemaking*, 11 FCC Rcd 11675, 11685 ¶ 24 (1996) ("*L-Band NPRM*").

[68] *L-Band Order*, 17 FCC Rcd at 2714 ¶ 25.

[69] *Id.* at 2709 ¶¶ 12-13.

[70] *Id.* at 2712 ¶ 19.

[71] The FCC has offered no basis for its departure from the Big LEO precedent, *see Big LEO NPRM*, 18 FCC Rcd at 2089 ¶ 266, to rush through this proceeding with an extremely abbreviated 14-day comment period where significant and valuable spectrum is at stake and no exigencies are present (*e.g*., neither TMI nor ICO is operational and providing service to subscribers). *See Motor Vehicles Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co*., 463 U.S. 29, 57 (1983); *National Conservative Political Action Comm. v. Federal Election Comm'n*, 626 F.2d 953, 959 (D.C. Cir. 1980); *Greater Boston Television Corp. v. FCC*, 444 F.2d 841, 852 (D.C. Cir. 1970).

CONCLUSION

For the foregoing reasons, the Commission should find that, based on the current record, no rational basis exists to justify the intended reassignment of 2 GHz MSS spectrum. If further fact-finding demonstrates that the unassigned spectrum is to be used for terrestrial services, the Commission should commence a rulemaking to reallocate the spectrum and make it available at auction to ensure its highest and best use.

Respectfully submitted,

/s/ Diane J. Cornell

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